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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,066	01/28/2004	Yoriharu Takai	04329.3226	9461

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EXAMINER	
ALPHONSE, FRITZ	
ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/765,066

Applicant(s)

TAKAI, YORIHARU

Examiner

Fritz Alphonse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1, 13.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Weng (U.S. Pat. No. 5,428,630).

As to claim 1, Weng (figs. 3-4) shows a control circuit for a memory device, comprising: an inverter (358; fig. 4A) which inverts all bits of data read out from the memory device (col. 10, lines 1-6). Weng teaches a decoder which executes error correction and decoding for an output of the inverter (col. 2, lines 4-16).

As to claim 3, Weng discloses a control circuit, wherein the memory device comprises a nonvolatile semiconductor memory device (fig. 1; col. 3, lines 3-9).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weng in view of Fukushima (U.S. Pat. No. 6,981,205).

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As to claim 2, Weng does not explicitly disclose a control circuit, wherein the decoder detects that there is no error for an inverted value of all bits of an initial value after data in the memory device is erased.

However, the limitation is obvious and well known in the art, as evidenced by Fukushima (col. 8, lines 26-36).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Weng's system with the data storage apparatus, as disclosed by Fukushima. Doing so would provide a method for improving the error correcting probability to generate correct read data (col. 2, lines 40-42).

5. Claims 4, 7-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weng in view of Crisp (U.S. Pat. No. 5,043,943).

As to claim 4, Weng (figs. 3-4) discloses a control circuit for a memory device, including: a first inverter (358; fig.4A) which inverts all bits of data to be written into the memory device (col. 10, lines 1-6); a decoder which executes error correction and decoding for an output of the inverter (col. 2, lines 4-16). Weng discloses an encoder which executes error correction and coding for an output of the first inverter (col. 1, lines 60 through col. 2 line 3).

Weng differs from claim 4 in that he does not explicitly disclose a second and third inverter which invert bits of data.

However, in the same field of endeavor, Crisp discloses a control circuit provided for controlling a memory device including a second and third inverter which invert bits of data (fig. 6; col. 5, lines 48 through col. 6 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Weng's system with the cache memory, as disclosed by Crisp. By doing so would the write data control signals enable the write amplifier to independently write a predetermined number of parity bits into the memory (col. 2, lines 60-63).

As to claim 8, the claim differs from claim 4 by the additional limitation "a buffer which holds data temporarily". However, the limitation is obvious and well known in the art, as evidenced by Crisp (figure 4). See the motivation for the same reason disclosed in claim 4 above.

As to claims 7 and 12, Weng discloses a control circuit, wherein the memory device comprises a nonvolatile semiconductor memory device (fig. 1; col. 3, lines 3-9).

As to claim 11, Weng does not explicitly disclose a memory controller, including a selector which selectively supplies an output of the buffer and an output of the encoder to the memory device. However, the limitation is clearly disclosed by Crisp (fig. 3; col. 4, lines 3-22). See the motivation for the same reason disclosed in claim 4 above.

6. Claims 5-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weng in view of Crisp as applied to claims 4 and 8 above, and further in view of Fukushima.

As to claims 5-6 and 9-10, Weng discloses a control circuit, wherein a coding method of the encoder is a method in which the decoder detects that there is no error for an inverted value of all bits of an initial value after data in the memory device is erased (fig. 1; col. 8, lines 49-66).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks, Washington, D.C. 20231

**or faxed to:** (703) 872-9306 for all formal communications.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (Receptionist).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse, whose telephone number is (571) 272-3813. The examiner can normally be reached on M-F, 8:30-6:00, Alt. Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached at (571) 272-3819.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fritz Alphonse

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July 21, 2006

ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER  
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